Components and Considerations in Building an Insider Threat Program

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Motivation for a Program

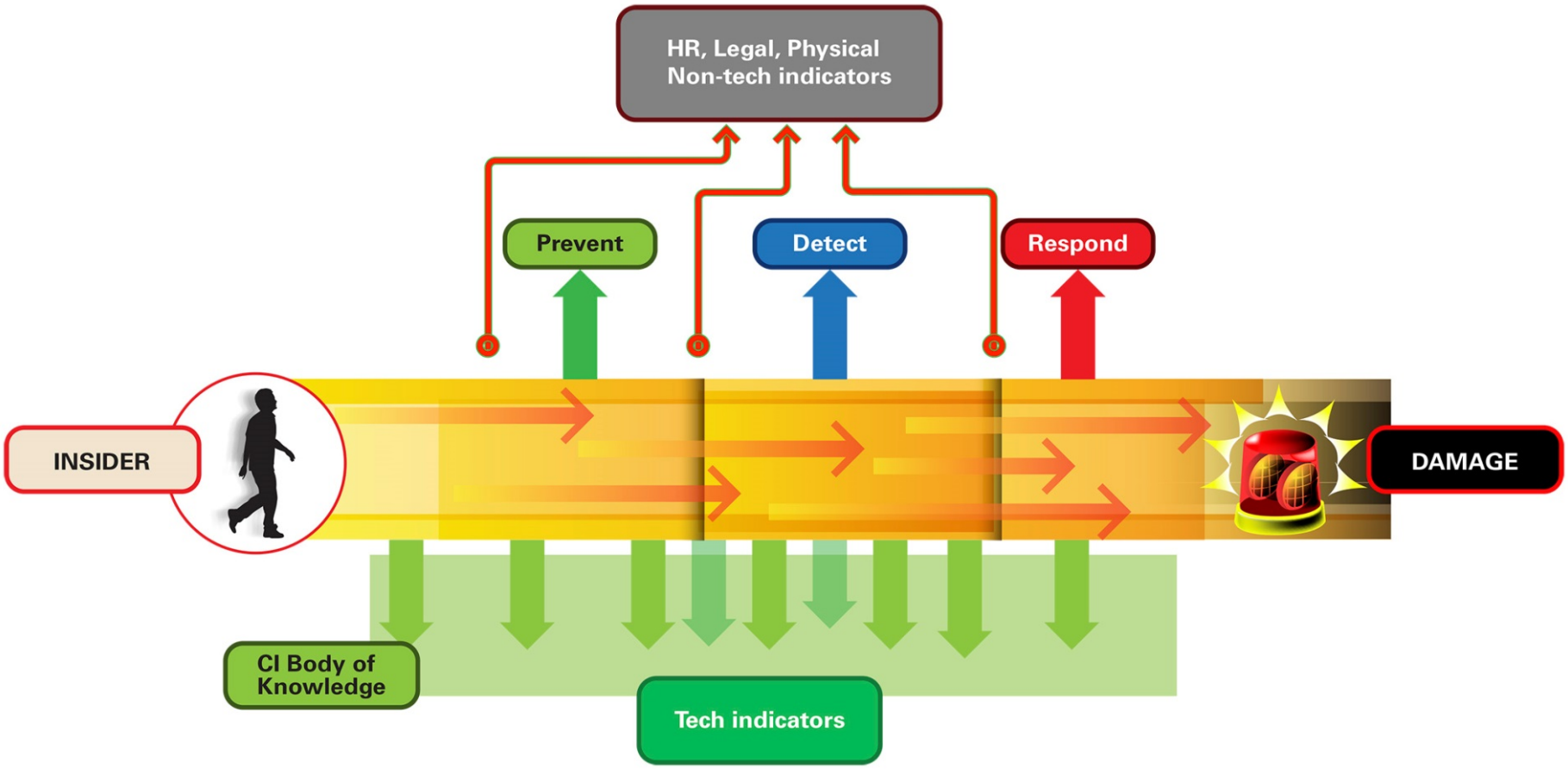
"to ensure the responsible sharing and safeguarding of classified national security information on computer networks."
Source: Executive Order 13587, quoted in GCN (http://s.tt/1ai6l)

To ensure protection of and appropriate access to intellectual property and other critical assets, systems, and data

To be prepared and ready to handle such events in a consistent, timely, and quality manner including understanding

- who to involve
- who has authority
- who to coordinate with
- who to report to
- what actions to take
- what improvements to make

Goal for a Program

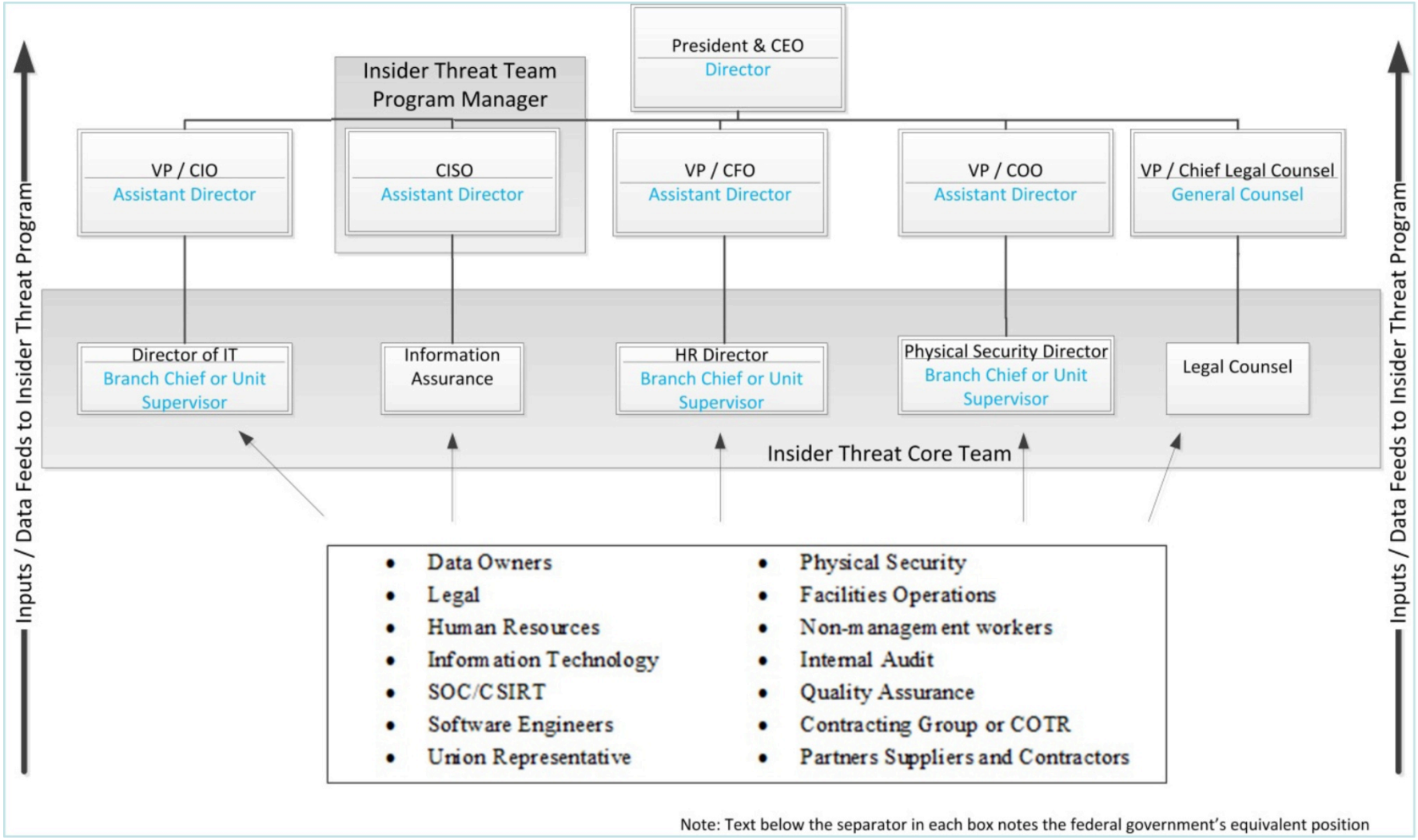


Opportunities for prevention, detection, and response for an insider attack

Component Overview

- Cross-enterprise project planning and implementation group
- Designated staff to manage and operate the Insider Threat Program
- Multi-level training and awareness program
- Infrastructure support
- Cross-organizational data collection and analysis
- Incident Response Plan
- Policies, procedures, and practices created or enhanced to support insider threat program
- Protection of civil liberties and privacy rights

Insider Threat Program Participants (Notional)



Multi-level Training and Awareness

General awareness, training, and refreshers for all staff

- Definitions for insider threat
- Types of insider threat crimes and activities and motivations
- How staff can be targeted and social engineered
- When, how, and what to report – regarding suspicious human or computer activity
- Acceptable use policy and repercussions for violation
- Responsibility for protecting IP, data, and systems and for reporting

Role based training for areas of the organization

- HR
- Legal
- IT and Security
- Facilities

Specific training for Insider Threat Program staff

Infrastructure Support

Prevention and Detection

- Data loss prevention
- Monitoring, filtering, blocking

Data Collection and Analysis

- Synthesis and aggregation
- Correlation
- Repository for data analysis

Data Aggregation and Analysis

Determine types of data to be collected

Supporting authority and permission

Methods for obtaining data

Criteria for user monitoring

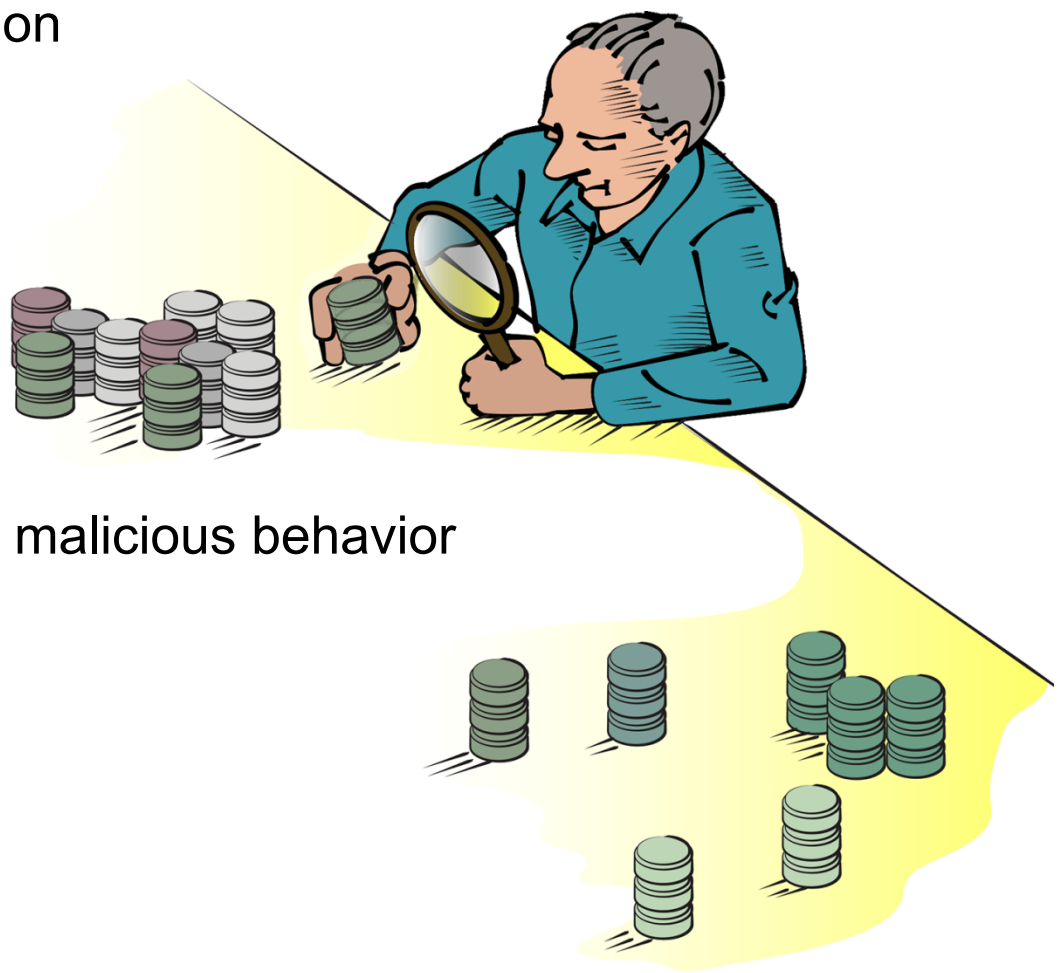
- Privileged users
- Role based
- Asset based

Criteria for suspicious or potential malicious behavior

Scoring criteria

Alerting mechanisms

Escalation mechanisms



Incident Response Plan

How incidents perpetrated by insiders are

- Detected
- Reported
- Contained
- Remediated
- Documented
- Prosecuted (if applicable)

How processes change for different types of threats:

- Fraud
- Theft of IP
- Sabotage
- Espionage

How processes change when involvement includes

- Contracts and SLAs
- Unions
- Privileged users
- Cloud computing servers and data centers

Response Options

Internal

- Retraining
- Personnel actions
- Organizational sanctions
- Legal actions

External

- Referral to internal investigative unit or counter intelligence (if applicable)
- Referral to local or federal law enforcement if applicable

Response Considerations

- Think about response to precursors not just to incidents that have occurred.
- Responses must be documented and practiced consistently
- All response procedures should be coordinated with General Counsel
- Privacy and civil liberties must be consider at all times

Policies, Procedures, and Practices

Examples include but are not limited to:

- Reporting
  - Confidential reporting mechanism
  - Requirement to report
- Information Technology
  - Acceptable use
  - Separation of duties
  - Code reviews
  - Least privilege
  - No shared accounts
  - Change control
  - Configuration management

Criminal Background Screening Best Practices

Practices apply to all employment decisions, including promotions

Even neutral policies can impact certain groups of candidates more than others; generally, policies shouldn't automatically exclude all candidates with criminal history

Be cautious when using arrest records, conviction records provide better evidence

Train all relevant staff about complying with the equal employment laws and keep all candidate criminal information confidential

Criminal Background Screening Best Practices

Screenings should be job related and consistent with a business need

Often, a 'targeted screening' is recommended, where the employer considers:

- The nature of the crime
- How long ago the crime took place
- The nature of the job

Best Practices Adapted from the Equal Employment Opportunity Commission's Enforcement Guidance on the Consideration of Arrest and Conviction Records in Employment Decisions Under Title VII of the Civil Rights Act of 1964.

6 Essential Legal Considerations

Create, maintain and enforce acceptable use and monitoring policies

Obtain employee acknowledgement of policies and communicate any updates

Don’t rely solely on policies; protect proprietary information through technical measures such as access controls

6 Essential Legal Considerations

Consider the need to review logs for evidence when creating your data retention policies

Be cautious of performing your own investigations, make sure to preserve evidence

Be prompt when issuing a legal response

Considerations adapted from: Chickowski, 5 Ways to Lose a Malicious Insider Lawsuit, available at: http://www.darkreading.com/insider-threat/167801100/security/news/240000436/five-ways-to-lose-a-malicious-insider-lawsuit.html?cid=nl_DR_daily_2012-05-16_html&elq=c5ac1d36f4564d6bbe7fa410608fb160

Summary

Implementation Strategy

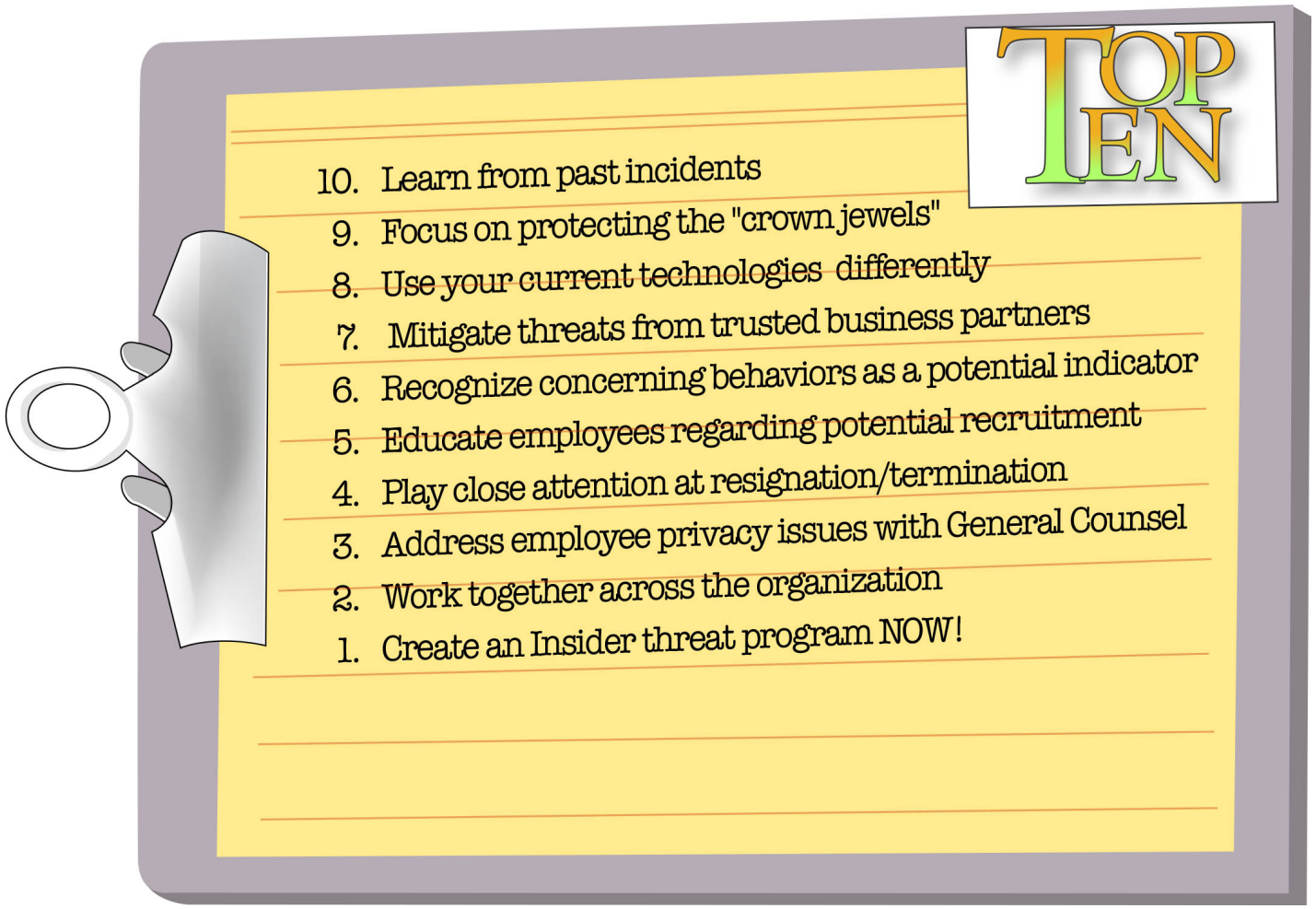
First 30-90 Days

- Obtain buy-in from top management
- Designate a senior manager to be the Insider Threat Program Manager
- Create a working group to plan the project and implementation (include representative from key areas)
- Collect information on what is already in place and can be leveraged
- Talk to others who have programs, research recommendations
- Identify the organizational structure of an enterprise Insider Threat Program
- Identify roles and responsibilities for the program

Next 90-180 Days

- Develop staffing requirements, competencies, and a workforce management plan
- Develop initial training requirements and materials
- Architect data collection, aggregation, and analysis methodology and tools

The CERT Top 10 List for Winning the Battle Against Insider Threats



Resources

CERT Resources

Insider Threat Center website (http://www.cert.org/insider_threat/)

Common Sense Guide to Mitigating Insider Threats, 4th Ed. (http://www.sei.cmu.edu/library/abstracts/reports/12tr012.cfm)

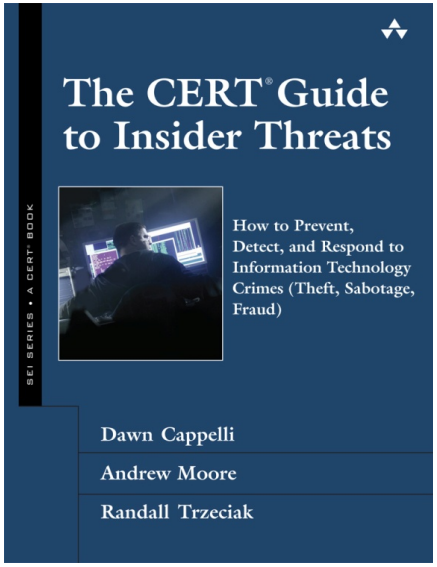
The Insider Threat and Employee Privacy: An Overview of Recent Case Law, Computer Law and Security Review, Volume 29, Issue 4, August 2013 by Carly L. Huth

Insider threat workshops

Insider threat assessments

New controls from CERT Insider Threat Lab

Insider threat exercises



The CERT® Guide to Insider Threats: How to Prevent, Detect, and Respond to Information Technology Crimes (Theft, Sabotage, Fraud) (SEI Series in Software Engineering) by Dawn M. Cappelli, Andrew P. Moore and Randall F. Trzeciak

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